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## Summer jobs teach future technologies

*by Ranney Adams, Propulsion Directorate*

EDWARDS AIR FORCE BASE, Calif. — Mixing and measuring the stuff that propels rockets and aircraft is not a typical summer job for a high school student.

This summer, students from the Antelope Valley spent weeks at the Air Force Research Laboratory's Propulsion Directorate doing hands-on research and analysis on future rocket propulsion technologies, propellants, jet fuel and hydraulic fluids.

Under the guidance of researcher/mentors, the chemistry students participated in the American Chemical Society's (ACS) Project SEED program, which encourages students to pursue career opportunities in the chemical sciences.

Led by Joann LaRue, Analysis Lab leader, and Amanda Schoettmer, the current Chairperson of the Mojave Desert Section of the American Chemical Society, this was the third year that students could participate in the program at AFRL. Through the ACS, students who have not graduated from high school are eligible for the 'Summer I program' and, if selected, return for a second year 'Summer II program.' College scholarships are also available to promising SEED participants who have graduated and plan to seek higher education.

LaRue, who helped start the program at the lab, outlined her philosophy. "You need an education to achieve higher goals," LaRue said. "The SEED program is all about educating young talented students."

Dena Hardiman, a Mojave High School student who will be a senior this fall, worked on the program for her second year. Her orientation to the world-class research and development instruments and facilities of the AFRL provided her and her fellow SEED program participants with some unique opportunities and goals for their summer efforts. Learning how hydrocarbon combustion takes place, she was taught to measure the physical properties of fuels.

Desiree Ayala, a senior this fall at Mojave High School, worked on polymer or plastics chemistry. Desiree was given an opportunity to work with an innovative team of chemists who are making 'Super Plastics' with polymer additives. The research, called POSS technology, allows manufacturers to add material to a plastic formulation that provides greater strength, abrasion resistance, and even a means of producing flame retardant materials.

Space and Missile Propulsion Division Director Mike Huggins praised the program and its participants. "This day-to-day investment in mentoring students is worthwhile," Huggins said. "The goals of the SEED program match our future needs." @